

CLAIMS

1. A fast particle generating apparatus comprising:

a laser source for emitting a laser beam at a predetermined intensity;

5 a target for generating and emitting fast particles when irradiated with the laser beam in focus thereon;

a focusing optical system for focusing the laser beam emitted from the laser source, on the target;

10 light measuring means for measuring light generated in the target upon irradiation with the laser beam and outputting a measurement signal;

analyzing means for performing an analysis on a generation state of the fast particles in the target, based on the measurement signal from the light measuring means; and

15 control means for controlling at least one of the laser source, the target, and the focusing optical system on the basis of a result of the analysis by the analyzing means, thereby controlling the generation state of the fast particles in the target.

20 2. The fast particle generating apparatus according to Claim 1, wherein the control means is a moving mechanism for controlling movement of the target or the focusing optical system.

3. The fast particle generating apparatus according to Claim 1 or 2, wherein the focusing optical system has an off-axis parabolic mirror.

25 4. The fast particle generating apparatus according to any one of Claims 1 to 3, wherein the light measuring means has a spectrometer

for spectroscopically measuring the light generated in the target.